



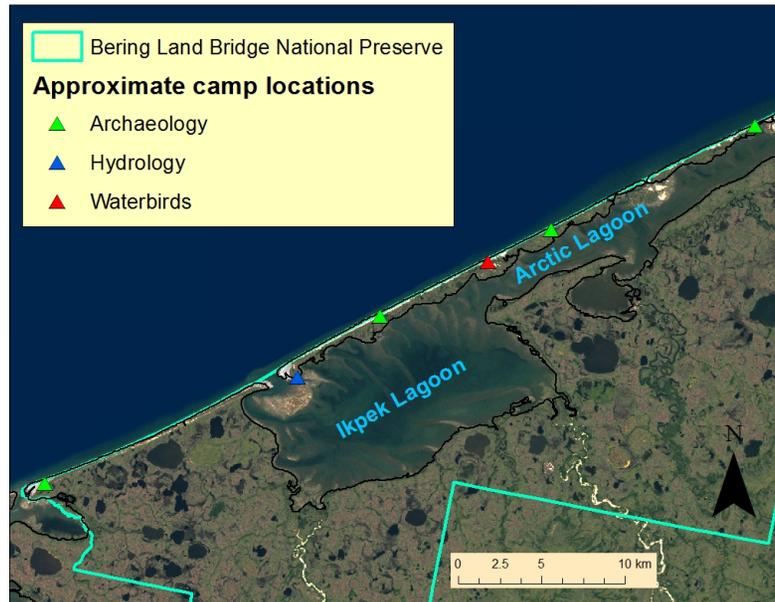
# CULTURAL AND NATURAL RESOURCE SCIENCE AT IKPEK LAGOON, SUMMER 2013



This summer NPS is partnering with researchers from **Portland State University (PSU)** and **University of Alaska Anchorage (UAA)** on cultural and natural resource field studies at Ikpek lagoon. **Shelby Anderson** from **PSU** and her team return to Ikpek Lagoon\* July 11th to complete their survey of archaeological sites. **Audrey Taylor** from **UAA** will conduct aerial surveys in a tandem Husky on floats for shorebirds in the Ikpek area\*\* between July 28–August 5. Ikpek will be a focal study area for **Jeremy Mizel (NPS)** and crew who will conduct ground-based surveys for shorebirds July 24–August 30 and **Tahzay Jones (NPS)** and **Paul Burger (NPS)** who will collect information on lagoon hydrology July 18–25 and August 20–30.

\* Shelby's entire study area starts 4 miles east of Sinrazat Shelter Cabin and extends westward along the coast, just east of Mitletukeruk.

\*\*Audrey will survey the coastlines and lagoons of Bering Land Bridge NP (BELA) and Cape Krusenstern NM (CAKR).



In summer 2012, Dr. Anderson and her team located and recorded a total of five new sites and 21 previously reported sites in the Ikpek lagoon area. Recording activities include: mapping, photographing, collecting surface and subsurface samples for dating and analysis, and taking extensive notes on the nature and condition of the site.



This year marks the first of two years that aerial surveys for shorebirds will be conducted at Ikpek and along the BELA and CAKR coasts. Dr. Taylor is repeating the aerial survey methods she used for shorebird studies along the northern Chukchi and Beaufort coasts from 2005–2007.



**Flip it over** for more study information

## NPS FLIGHTS AND LANDINGS AT IKPEK LAGOON



### July

**11th** Archaeology Crew- 3 landings

**18th and 20th** Lagoon Hydrology Crew– 2 landings

**24th**– Shorebird Ground Crew– 3 landings

**28th–31st** Shorebird Aerial Surveys– low-level flying at Ikpek and nearby lagoons

### August

**1st– 5th** Shorebird Aerial Surveys low-level flying at Ikpek and nearby lagoons

**3rd** Archaeology Crew- 3 landings

**8th** Shorebird Ground Crew- 1 landing

**20th** Lagoon Hydrology Crew and Shorebird Ground Crew– 2 landings

**30th** Lagoon Hydrology Crew and Shorebird Ground Crew– 5 landings

## Climate Change and Archaeology in Northwest Alaska: Nuluk Study.

Shelby Anderson, PSU

The disappearing archaeological record provides an important and irreplaceable historical baseline for studying current social and environmental issues in the Arctic. Increased sea level, decreased snow and ice extent, and melting permafrost are all contributing to the destruction of archaeological sites in northwest Alaska. As these sites are disturbed or destroyed by changing climate conditions, we are losing the record of past human-environment interactions.



Mapping an archaeological site (Photo by Michael Holt 2012)

Drilled and ground slate object from site investigated in summer 2012 (Photo by Justin Junge 2012).

To address some of these issues we: 1) collect and analyze archaeological data that will help build an understanding of how past peoples adapted to coastal environmental change, and 2) collect information about the impact of regional climate change on sites in the project area. Following fieldwork, we will make site protection and mitigation recommendations to NPS. For more information contact: **Shelby Anderson, ashelby@pdx.edu, 503-725-3318**



**WHY  
STUDY  
THIS?**



## Shorebird Use of Coastal Lagoons During Fall Migration

Audrey Taylor, UAA and Jeremy Mizel, NPS

Lagoons and estuaries are important areas for migratory birds during breeding and migration. During migration, large congregations of birds feeding at lagoons are highly vulnerable to industrial spills.

A recent Northwestern Arctic Ecological Spill Response Scenario exercise led by the U.S. Coast Guard identified knowledge gaps in the biological and physical understanding of the lagoon systems in BELA and CAKR. Lack of baseline data about birds in other areas affected by oil spills (Exxon Valdez and Gulf of Mexico) has greatly inhibited determining spill impacts on bird populations. Dr. Taylor's aerial surveys will provide information, that we currently lack, on the abundance and distribution of post breeding shorebirds along the coast of Bering Land Bridge NP and Cape Krusenstern NM. Jeremy Mizel's ground-based surveys for shorebirds (and other waterbirds) at Ikpek will provide information about how shorebird abundance changes at the lagoon over most of the "staging period"—when shorebirds are foraging heavily to fatten up for their long, migratory journeys. For more information contact

**Audrey Taylor [artaylor@uaa.alaska.edu](mailto:artaylor@uaa.alaska.edu), 907-786-6854 and Jeremy Mizel [jeremy\\_mizel@nps.gov](mailto:jeremy_mizel@nps.gov), 907-455-0638**

## Lagoon Hydrology Tahzay Jones NPS and Paul Burger NPS

In order to understand the likelihood of contaminant deposition and transport within Ikpek lagoon, Tahzay and Paul will measure water flow at Ikpek's openings. These measurements will be taken at high, slack, and low tide during July and August using an Acoustic Doppler Current Profiler instrument (pictured right). For more information contact **Tahzay Jones, tahzay\_jones@nps.gov 907-644-3442 and Paul Burger, paul\_burger@nps.gov**

